activatable layer with a component of expansion normal to the selectively activatable layer; and,

heating and expanding a surrounding second volume of the selectively activatable layer with a component of expansion in a plane of the selectively activatable layer into the first volume whereby a total volumetric expansion occurs with the second volume expanding into and extruding the first volume for a total expansion at least to the first interval to locally contact a portion of the specimen at the extremity of the volumetric expansion.

15. (Once Amended) A process of laser capture microdissection from a specimen according to claim 14 wherein the step of selectively activating the selectively activatable layer to cause volumetric expansion includes

the heating and expanding of the first inner volume includes generating or expanding a vapor bubble.

34. (Once Amended) A method for non-contact laser capture microdissection from a visualized specimen, the method comprising the steps of:

providing a support for supporting and viewing the visualized specimen;

providing a supporting substrate;

placing a selectively activatable layer on the supporting substrate, which upon activation causes volumetric expansion with an extremity of the volumetric expansion exceeding a first interval taken substantially normal to a surface of the selectively activatable layer;

interconnecting the supporting substrate and the support to maintain the first surface at a spatial separation from all parts of the visualized specimen in juxtaposition with respect to the visualized specimen at the first interval of spatial separation from the visualized specimen; and,

locally activating the selectively activatable layer to bring the first surface into contact with the visualized specimen.